

Electron-microscopic Investigations of Vulcanized
Products of Natural and Synthetic Rubber

SOV/48-23-6-14/28

is used, and an example (Fig 1) is shown of natural rubber enlarged 41000 times. In the second part of the paper the results obtained by investigations carried out of four vulcanized products are dealt with, each of which is composed of two kinds of rubber. These vulcanized products show various forms of microinhomogeneity and size. From the boundaries of these microinhomogeneities conclusions may be drawn as to compatibility in that a diffuse boundary indicates better compatibility. There are 3 figures and 9 references, 6 of which are Soviet.

Card 2/2

PECHKOVSKAYA, K.A.; ORLOVSKIY, P.N.; SIMANOVSKAYA, S.A.

Chemical and physicochemical methods of evaluating carbon black quality. Kauch. i rez. 16 no.3:28-32 Mr '57. (MIRA 12:3)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.
(Carbon black)

BLAGOV, S.S. [deceased]; PECHTIOVSKAYA, K.A.; LYKIN, A.S.; SIMANOVSKAYA, S.A.;
SHMIGEL'SKIY, V.K.

Electron-microscopic investigation of rubber mixtures and their
basic ingredients. Kauch.i rez. 18 no.3:12-18 Mr '59.

(MIRA 12:5)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.
(Rubber research)
(Electron microscopy)

SOV/138-58-6-3/25

AUTHORS: Pechkovskaya, K.A., Shadid-Khuzomi, N.A., Orlovskiy P.N.,
Livshits, F.B., Novikova I.S. and Bryushkova, I.I.

TITLE: Chemical and Physico-Chemical Methods of Evaluating the
Properties of Carbon Black (Khimicheskiye i fiziko-
khimicheskiye metody otsenki kachestva sazh)
Part II: The Fundamental 'Structure' of Carbon Black
(Soobshcheniye II: pervichnaya 'struktura' sazhi)

PERIODICAL: Kauchuk i Rezina, 1958, Nr 6, pp 8 - 13 (USSR)

ABSTRACT: The colorimetric method for evaluating the dispersity of
carbon black was discussed in Part I (Ref 1). This article
describes investigations on the 'structure' of carbon
black. After defining the terminology of 'carbon black
particles', crystallite, and the primary and secondary
aggregate, methods for the quantitative evaluation of the
fundamental 'structure' of carbon black are discussed.
None of these methods was entirely satisfactory. Com-
parative evaluation of the fundamental 'structure' can be
achieved by defining the oil number and the 'structure'
index. The form factor can serve as an added character-
istic. The partial breakdown of the fundamental 'structure'

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Chemical and Physico-Chemical Methods of Evaluating the Properties
of Carbon Black

SOV/038-58-6-3/25

of jet carbon black leads to a decrease in the oil number without causing appreciable changes in the unit surface. The fundamental 'structure' inhibits granulation of the carbon black. The secondary 'structure' makes granulation easier. The degree of the development of the fundamental 'structure' indicates a change in the technological properties of the raw material mixtures; mixtures containing carbon black with large primary particles are usually more viscous, can be sprayed more quickly and give a thinner deposit than mixtures containing carbon black of normal structure. Jet carbon black (with partly disintegrated fundamental 'structure') imparts to vulcanisates, based on SIB, a lowered modulus, a lower degree of electroconductivity and increased bonding strength to cords (Fig 3). The degree of dispersity and data on the 'structure' of various Soviet carbon blacks are listed in

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Chemical and Physico-Chemical Methods of Evaluating the Properties
of Carbon Black

Table 2, and Table 4 gives the physico-chemical and
technological properties of American furnace carbon black.
There are 5 tables, 3 figures and 13 references
(7 English, 2 German and 4 Soviet)

ASSOCIATION: Nauchnoissledovatel'skiy institut shinnoy
promyshlennosti (Research Institute for the Tire Industry)

1. Carbon black--Physical properties 2. Carbon black--Chemical pro-
perties 3. Colorimetric analysis--Applications

Card 3/3

PECHKOVSKAYA, K.A.; SENATORSKAYA, L.G.; BERMAN, B.Z.; DOGADKIN, B.A.

Reinforcement of rubber in latex. Part 7: Electron microscope study of filler-reinforced latex blends [with summary in English]. Koll.zhur. 23 no.4:462-463 J1-Ag '61. (MIRA 14:8)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti, Moskva.

(Latex)

PECHKOVSKAYA, K.A.; SHEKHID-KHUZEMI, N.A.; ORLOVSKIY, P.N.; LIVSHITS, P.B.;
NOVIKOVA, I.S.; BRYUSHKOVA, I.I.

Chemical and physicochemical methods for evaluating the quality
of carbon black. Report no.2: Primary "structure" of carbon black.
Kauch. i rez. 17 no.6:8-13 Je '58. (MIRA 11:7)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.
(Carbon black)

PECHKOVSKAYA, K.A.; GOL'IMAN, E.I.; DCGADKIN, B.A.

Structure and properties of filled rubber mixtures. Part 17:
Properties of colloidal silica which determine its reinforcement effect. Kauch. i rez. 17 no.2:12-17 F '58. (MIRA 11:4)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.
(Rubber, Synthetic) (Silicic acid)

DOGADKIN, B.; PECHKOVSKAYA, K.; GOL'DMAN, E.

Structure and properties of filled rubber mixtures. Part 16: Mixtures from butadiene-Na rubber with colloidal silica, Kautsch. u. verw. 16 no.8: 1-5 Ag '57. (MIRA 10:11)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.
(Rubber, Synthetic) (Silicic acid)

PECHKOVSKAYA, K. A.

6233-3/8

AUTHORS: Pechkovskaya, K. A., Gol'dman, E. I., Dogadkin, B. A.

TITLE: Structure and Properties of Rubber Mixtures Containing Fillers. (Struktura i svoystva napolnennykh rezinovykh smesey). Part 17. Properties of Colloidal Silicic Acid, Defining its Strengthening Effect. (Sobshcheniye VII. Svoystva kolloidnoy kremne'isloty, opredelyayushchiye eye usilivayushchiy effekt.)

PERIODICAL: Kauchuk i Rezina, 1958, Nr.2. pp. 12 - 17. (USSR).

ABSTRACT: A detailed investigation of samples of colloidal silicic acid of varying activity was carried out. Electron-microscopic investigations were made to determine the degree of dispersion. Figs. 1 and 2 show micro-photographs of active (strengthening the rubber) and inactive (having only a slight strengthening effect on the rubber) samples; the size of the particles was approximately 150 - 300 Å. The optical density of aqueous suspensions was determined, and it was found that the light absorption in suspensions containing active silicic acid, equal weight concentration, was twice as large as the light absorption in suspensions containing the inactive sample (Table 1). The dispersion of active and inactive modifications of colloidal silicic acid in ka - butadiene rubber was evaluated by microscopic analysis.

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62B-2-3/8

Structure and Properties of Rubber Mixtures Containing Fillers. Part 17. Properties of Colloidal Silicic acid, Defining its Strengthening Effect.

and by adding colouring agents. Figs. 3 and 4: micro-photographs of rubber mixtures containing inactive/active silicic acid. Surface properties of the filler are determined by the nature of the filler itself, and by the by-products adsorbed on the surface of the particles. It was, therefore, necessary to determine to what degree the activity of the colloidal silicic acid and of the filler depends on the adsorbed substances. Such admixtures are electrolytes which were separated by high voltage dialysis. Results of this purification are given in Table 2; they show that the separation of adsorbed admixtures with active colloidal silicic acid do not lead to deactivation. The electrical properties of the samples of colloidal silicic acid, with a varying degree of activity, were determined by electrophoresis on an apparatus designed by S. Rabinovich and E. F. Dimar. The experiments were carried out on suspensions of silicic acid in an aqueous solution of glycerine, the concentration = 2.4 g/l. Some admixtures can be separated at increased temperatures, e.g. the samples of active colloidal silicic acid were heated in a muffle

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Structure and Properties of Rubber Mixtures Containing Fillers. Part 17. Properties of Colloidal Silicic Acid, Defining its Strengthening Effect. 62B-2-3/8

furnace at 400° and 600°C during 3½-4 hours. After calcination, the material was tested in three component and in standard rubber mixtures. Table 3: the coefficient of alkalisatation and physico-mechanical properties of the rubbers containing silicic acid before and after calcination. The kinetics of solubility of active and inactive industrial and dialysed colloidal silicic acid in a 1% solution of NaOH at various temperatures was investigated (Figs. 5 and 6). The industrial active sample dissolves in alkali at all investigated temperatures slower than the inactive. The opposite phenomenon was observed in the case of the active electro-dialysed purified sample. This can be explained by the very high surface activity of the first modification. There are 6 Figures, 2 Tables and 5 References: 3 Russian, 1 English and 1 German.

ASSOCIATION: Research Institute of the Tire Industry. (Nauchno-issledovatel'skiy institut shinnoy promyshlennosti)

AVAILABLE: Library of Congress.

Card 3/3

1. Synthetic rubber-Test results 2. Synthetic rubber-Mechanical properties 3. Silicic acid

SEYMOV, Valentin Mikhaylovich; DYATLOVITSKIY, L.I. [Diatlovyts'kyi, L.I.], doktor tekhn. nauk, otv. red.; PEGHKOVSKAYA, O.M. [Piechkovs'ka, O.M.], otv. red.; DAKHNO, Yu.M., tekhn.red.

[Design of beam slabs on elastic foundations taking into account the forces of friction due to contact] Rozrakhunok balochnykh plyt na pruzhnii osnovi z vrakhuvanniam syl tertia po kontaktu. Kyiv, Vyd-vo Akad. nauk URSR, 1962. 107 p. (MIRA 15:11)

(Beam and girders) (Elasticity)

PYSHKIN, B.A., otv. red.; ARISTOVSKIY, V.V., doktor tekhn.nauk, prof.,
red.; RUSAKOV, S.V., kand. tekhn. nauk, red.; MAKSIMCHUK,
V.L., kand. tekhn. nauk, red.; TSAYTS, Ye.S., kand. tekhn.
nauk, red.; PECHKOVSKAYA, O.M., red.; LIBE-MAN, T.R., tekhn.
red.

[Changes in the banks of reservoirs] Pererabotka beregov vodo-
khranilishch. Kiev, Izd-vo Akad. nauk USSR, 1962. 140 p.
(MIRA 15:11)

1. Akademiya nauk URSS, Kiev. Rada po vyvchenniu produktyvnykh
syl. 2. Chlen-korrespondent Akademii nauk Ukr. SSR (for Pyshkin).
(Reservoirs) (Coast changes)

PYSHKIN, Boris Andreyevich, prof.; RUSAKOV, Sergey Vasil'yevich; MAKSIMCHUK, Vladimir Lukich; SOKOL'NIKOV, Yuriy Nikolayevich. Prinsipal uchastnye: DOKUBIN, G.B.. TOLMACHOV, A.B., retsenzent; TSIMBERG, I.Ye., retsenzent; PECHKOVSKAYA, O.M., red.; MATVEY-CHUK, A.A., tekhn.red.

[Problems in planning channel deepening cuts] Voprosy proektirovaniia dnougubitel'nykh prorozei. Pod red. B.A.Pyshkina. Kiev, Izd-vo Akad.nauk USSR, 1959. 157 p. (MIRA 12:12)

1. Chlen-korrespondent AN USSR (for Pyshkin). 2. Glavnyy inzhener Dneprovskogo basseynovo upravleniya puti (for Tolmachov). 3. Nachal'nik otдела vodnykh putey Ukgiprorechtransa (for TSimberg).
(Rivers--Regulation)

SHCHEGOLEV, German Mikhaylovich; YASHIN, Aleksandr Viktorovich;
LAVROV, Petr Ivanovich, kand. tekhn. nauk, otv. red.;
PECHKOVSKAYA, O.M., red.; DAKHNO, Yu.M., tekhn. red.

[Low temperature ashing of fuels] Nizkotemperaturnoe ozo-
lenie topliv. Kiev, Izd-vo Akad. nauk USSR, 1962. 49 p.
(MIRA 15:10)

(Ash (Technology))

BELYASHEVSKIY, Nikolay Nikolayevich, kandidat tekhnicheskikh nauk; PYSHKIN, B.A., professor, redaktor; ~~PECHKOVSKAYA, O.M., redaktor izdatel'stva;~~
ZHUKOVSKIY, A.D., tekhnicheskiy redaktor

[Experience in constructing and operating improved types of spillway dams made of rock fill] opyt stroitel'stva i ekspluatatsii uluchshennykh tipov vodoslivnykh plotin iz kamennoi nabroski. Pod red. B.A.Pyshkina. Kiev, Izd-vo Akad.nauk USSR, 1957. 128 p.

(MIRA 10:8)

1. Chlen-korrespondent Akademii nauk Ukrainskoy SSR (for Pyshkin)
(Dams)

· OSMAKOV, S.A. (Leningrad); PECHERSKAYA, Sh.L. (Leningrad)

Calculation of the vertical vibrations of the foundation under
the influence of impulsive periodic charging. Osn., fund. i
mekh. grun. 5 no.5:26-27 '63. (MIRA 16:10)

USSR / General and Special Zoology. Insects. Insect
and Mite Pests.

P

Abs Jour: Ref Zhur-Biol., No 12, 1958, 54333.

Author : Topchlev, A. G.; Pechkovskaya, T. M.

Inst : Dnepropetrovsk University.

Title : Certain Data on the Distribution of the May Beetle
and Other Invertebrates in the Young Field-Protect-
ing Forest Belts Before the Closing of the Canopy.
(in the Veliko-Anadol'skiy Forest District, Stalin-
skaya Oblast).

Orig Pub: Nauchn. zap. Dnepropetr. un-ta, 1955, 54, 67-72.

Abstract: In the young forest belts, before the joining of
their crowns, the larvae of the following May
beetles are chiefly encountered: *Anisoplia austriaca*,
and to some extent, in older belts - the larvae of
Rhizotrogus aequinoctialis, *Amphimallon solstitialis*

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USSR / General and Special Zoology. Insects. Insect
and Mite Pests.

P

Abs Jour: Ref Zhur-Biol., No 12, 1958, 54333.

Abstract: and *A. altaicus*. Among other insects, the most frequently encountered are: *Agriotes gurgistanus*, less frequently *Opatrum sabulosum* (Tenebrionidae), the corn darkling beetle (*Pedinus femoralis*), wheat cutworm moth (*Euxoa tritici*) and the larvae of various snout-beetles. On the agricultural crops, the larvae of the grain beetle (*Anisoplia austriaca*), the steppe click beetle (*Agriotes gurgistanus*), corn darkling beetle, etc. are encountered in smaller numbers than in the forest belts where they are widespread in poorly weeded places. The larvae of *Th. aequinoctialis*, and of *A. solstitialis* are encountered in older (but with still unclosed canopies) forest belts which are overgrown with grassy vegetation, or are not weeded

Card 2/3

KAZANSKIY, V.B.; FECHERSKAYA, Yu.I.

Electron paramagnetic resonance in irradiated aluminum oxide.
Zhur. fiz. khim. 34 no.2:477 F '60. (MIRA 14:7)

1. AN SSSR, Institut khimicheskoy fiziki, Moskva.
(Alumina--Spectra)

PECHERSKAYA, Yu.I.; KAZANSKIY, V.B.; VOYEVODSKIY, V.V.

Electron paramagnetic resonance studies of the thermal activation
of chromium gel. Kin.i kat. 3 no.1:111-113 '62. (MIRA 15:3)

1. Institut khimicheskoy fiziki AN SSSR.
(Chromium) (Catalysis)

AUTHOR: Pechkovskaya, Z.B.

32-12-28/71

TITLE: The Method of Determining the Dynamics of the Pyrogenetic Transformation of Coal (Metod izucheniya dinamiki pirogeneticheskogo razlozheniya ugley).

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 12, pp. 1461-1462 (USSR)

ABSTRACT: In coke production it is important to be able to determine the volatile substances of coal with accuracy. This is made difficult by the fact that the coking of coal is carried out in hermetically closed containers. On the other hand, the well-known methods for automatic recording according to volume and weight necessitate using a very complicated apparatus. The method recommended in this paper makes it possible to remove these drawbacks. For this purpose a special device is suggested, which is described as follows: A sample of coal (1.4 g) is introduced into an electric furnace in a quartz ampule from above in a downward direction, the said ampule being connected to a roller above the furnace. This roller rests in the loop of a cord the ends of which are fastened to two brackets. These brackets are arranged in such a manner that they represent a dynamographic system. A sagging of this bracket system is here recorded by a galvanometer by way of a pyrometer (according to

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The Method of Determining the Dynamics of the Pyrogenetic Transformation of Coal

32-12-28/71

Kurnakov) with Hg contacts. If the coal sample is heated its volatile substances are separated and pass from the ampule into the furnace. Thereby the weight of the sample is reduced, which is recorded accordingly. Temperature is recorded by means of a thermoelement. In order to avoid oxygen of the air acting upon the sample, the furnace is closed by a suitable lid above which another bell-shaped lid is fastened, into which pure nitrogen is conveyed. There are 2 figures.

ASSOCIATION: Institute for Combustible Minerals AS USSR
goryuchikh iskopayemykh Akademii N. S. SSSR)

Institut

AVAILABLE: Library of Congress

Card 2/2 1. Coal-Transformations 2. Coke

Решетовский, Л. В.
PESCHKOVSKAYA, Z.B.

Method for studying the dynamics of pirogenetic decomposition of
coal. Zav. lab. 23 no.12:1461-1462 '57. (MIRA 11:2)

1. Institut goryuchikh iskopayemykh AN SSSR.
(Coal--Carbonization) (Chemical apparatus)

PECHKOVSKAYA, Z.B.

Investigating the effect of mineral additives on the kinetics of
the thermal decomposition of coals. Trudy IGI 8:239-253 '59.
(MIRA 13:1)

(Coal---Carbonization)

PECHKOVSKAYA, Z. B.

USSR/Chemical Technology. Chemical Products and Their I-13
.. Application--Treatment of solid mineral fuels

Abs Jour: Ref Zhur-Khimiya, No 3, 1957, 9232

Author : Pechkovskaya, Z. B.

Inst : Not given

Title : Determination of the Settling of Coke

Orig Pub: Zavod. laboratoriya, 1956, Vol 22, No 3, 318-320

Abstract: A method is proposed for determining the settling of coal during coking under conditions closely approximating those prevailing during industrial coking. A nichrome coil, one end of which is connected to an indicator, is inserted in a sample of ground coal heated in a metallic cylinder; during the heating of the coal and its transition to the plastic state, the coil is covered with a coke deposit and compressed by the settling of the charge together with the coke. The compression of the coil is recorded by the indicator. Results

Card 1/2

PECHKOVSKAYA, Z.B.; SMUTKINA, Z.S.; KASATOCHKIN, V.I.

Studying the process of the thermal decomposition of coal. Izv.Sib.
otd.AN SSSR no.9:63-71 '60. (MIRA 13:11)

1. Institut goryuchikh iskopayemykh Sibirskogo otdeleniya AN SSSR.
(Combustion)

5(4)

AUTHORS:

SOV/20-125-4-46/74
Kasatochkin, V. I., Petrov, G. G., Smutkina, Z. S.,
Pechkovskaya, Z. B.

TITLE:

The Physico-chemical Nature of Coal Coking (Fiziko-khimicheskaya priroda koksovaniya ugley)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 4, pp 852-855
(USSE)

ABSTRACT:

A polymer is the substance of the organic ground mass of fossil coal. Its structural elements are formed by a flat aromatic net of carbon atoms (in the nuclear part of the structure) with organic, not aromatic side radicals (peripheral part). The latter contain carbon, hydrogen, oxygen and several other elements (Ref 1). Under isothermal conditions of coal pyrolysis it is possible to draw a particular clear distinction with respect to time between the successive stages of primary and secondary decomposition. They correspond to the reactions of the peripheral and the nuclear part of the structure which differ with respect to the amount of activation energy (Ref 2). The vigorous separation of volatile substances (Curve I) and the constancy of the size of carbon nets L_a (Curve II) are characteristic of the primary decomposition.

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The Physico-chemical Nature of Coal Coking

SOV/20-125-4-40/74

tion of coking coal at 500° (Fig 1a). These nets form the nuclear part of the structure. Curves III and IV show both one minimum and one maximum (Fig 1b). The authors investigated nature and composition of the products of synthesis in the gas-vapor-phase at 450° in the "boiling" layer. This secures the simultaneous decomposition of the carbon particles and a rapid discharge of the products formed. Figure 2 and 3 show the dependence of the tar yield and its components on the duration of pyrolysis in % of the total yield in volatile substances in each stage of coal decomposition. In the course of pyrolysis the yield in asphaltenes, carbones and solid paraffins rises with increasing degree of decomposition. They are heavy, high-molecular products of synthesis in the gas-vapor-phase. Their elementary composition is transformed in the direction of the increasing ratio C/H. The yield in oxygen-containing products decreases. These results give evidence of a rapid disproportionation among the volatile substances and the solid radical of the destructing elements O and H through which the end groups of molecules are enriched. This is characteristic of a selective process. In this connection O and H are rapidly removed from the reaction system. Thus, favorable conditions of synthesis are created for high-polymer substances both in the gas phase and the solid radical. Under

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The Physico-chemical Nature of Coal Coking

SOV/20-125-4-46/74

conditions of a not selective high-temperature-process, however, the reactions proceed to a great extent under rupture of the C-C-bonds. Entire fragments of the side radicals are broken off. As a result of this coal is not deprived of the destructive elements O and H (Ref 4). In the case of an acceleration of the temperature rise of from 3 degrees/min to 100 degrees/min the sum $V_t + V_{\text{radical}}$ increases considerably (V_t denotes the sum of the losses in weight, V_{radical} the "remaining" volatile substances, Fig 3). The rise of C/H of the solid radical becomes flatter and flatter. In conclusion the authors give a physical summary of the formation of coke. There are 4 figures, 1 table, and 8 references, 7 of which are Soviet.

PRESENTED: November 22, 1958, by A. V. Topchiyev, Academician

SUBMITTED: July 29, 1958

Card 3/3

PECHKOVSKAYA, Z. B.

USSR/ Chemistry - Electrolysis
Chemistry - Amalgams

11 Jan 1948

"Kinetics of the Decomposition of Amalgams and Overvoltage of Hydrogen at the Mercury Cathode in Alkaline Solutions," Z. A. Iofa, Z. B. Pechkovskaya, Chair Electrochem, Moscow State U imeni M. V. Lomonosov, 4pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 2

Besides testing theory experimentally, authors interested in use of results of study of kinetics of decomposition of amalgams to find and test the equation for overvoltage of hydrogen at the mercurial cathode in very diluted alkaline solutions. Experiments confirm hypothesis of A. N. Frumkin on electrochemical mechanism of process of decomposition of the amalgam. Also prove and confirm dependence of overvoltage upon the composition of diluted alkaline solutions following directly from Frumkin's theory on influence of the structure of dual electrical layer on the kinetics of discharge. Submitted by A. N. Frumkin, 29 Oct 1947

PA 43/43T4

PECHORSKAYA, Z. B.

Method of Determining the Shrinkage of Coke. P. M.
Peltis and Z. B. Pechorskaya (Zavodskaya Laboratoriya,
1958, No. 5, 818-820). (In Russian). The method of coke
shrinkage determination described enables actual coke-oven
conditions to be approximated and enables the dynamics
of shrinking to be studied. The tests are carried out starting
with a sample of the cold coal charge, which is heated through
one face at a regulated rate. A piezometric spiral is bodded
in the sample and its compression, indicating the shrinkage,
is recorded throughout the test. Results obtained with vari-
ous blends of coal are given and some general principles
deduced.—a. n.

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PECHKOVSKI, V.

Studying the role of some oxides in the process of oxidizing zind sulfide. Tr.
from the German. p. 51.
(TEZHKA PROMISHLENOST. Vol. 3, No. 11, 1954)

SO: Monthly List of East European Accession, (EEAL), LC, Vol. 4, No. 9,
Sept. 1955; Uncl.

PECHKOVSKIY, A.

"Electronic set for precise adjustment of the frequency of generators."

So. Radio, Vol. 1, p. 55, 1952

PECHKOVSKIY, A.

Electric Apparatus and Appliances

Apparatus for precise acceleration of generator frequency. Radio 29 no. 1, 1952

9. Monthly List of Russian Accessions, Library of Congress, April 1952, Uncl.

PECHENKIN, A.

Radio - Apparatus and Supplies

Apparatus for precise acceleration of generator frequency. Radio, 29, no. 1, 1952

9. Monthly List of Russian Accessions, Library of Congress, _____ April ¹⁹⁵²~~1953~~, Uncl.

PECHKOVSKIY, A.

"Light Soldering," Technical Youth/USSR, 1950.

PECHKOVSKIY, A.M.; VORONINA, S.N.

Most recent types on furnaces; review of British equipment in 1959
[from "Metallurgia" no. 356, 1959]. Metalloved. i term. obr. met.
no.8:63-64 Ag '60. (MIRA 13:9)
(Great Britain--Metallurgical furnaces)

PECHKOVSKIY, A.M.; VORONINA, S.N.

Most recent type of adsorbent, molecular sieve [from "Metal Progress,"
no. 4, 1959; no.2, 1960]. Metalloved. i term. obr. met. no.5:49-
51 My '61. (MIRA 14:5)

(United States--Adsorbents)

SERGEYCHEV, Ivan Mikhaylovich; PECHKOFSKIY, Aleksey Mikhaylovich;
KOSTENKO, D.M., retsenezent; IZAKOV, N.R., kand.tekhn.nauk, red.;
RZHAVINSKIY, V.V., inzh., red.isd-va; KL'KIND, V.D., tekhn.red.

[Heat treatment of cutting and measuring tools] Ternicheskaya
obrabotka rezhushchego i izmeritel'nogo instrumenta. Moskva, Gos.
nauchno-tekhn.isd-vo mashinostroit.lit-ry, 1960. 305 p.
(MIRA 13:12)

(Tool steel--Heat treatment)

PECHKOVSKIY A.M.

SEMYKOV, A.A.; MALYSHEV, B.V.; PECHKOVSKIY, A.M., inzhener, retsenzent;
REZIKER, Z.L., inzhener, redaktor; MOISEL', B.I., tekhnicheskii
redaktor

[Protective atmospheres in the heat treatment of steel] Kontroli-
ruemye atmosfery pri termicheskoi obrabotke stali. Moskva, Gos.
nauchno-tekhn. izd-vo mashinostroitel'noi lit-ry, 1953. 371 p.
[Microfilm] (MLRA 7:10)

(Steel--Heat treatment)

(Metallurgical furnaces--Protective atmospheres)

PECHKOVSKIY

PHASE I BOOK EXPLOITATION

80V/5091

Sergeychev, Ivan Mikhaylovich, and Aleksey Mikhaylovich Pechkovskiy

Termicheskaya obrabotka rezhushchego i izmeritel'nogo instrumenta (Heat Treatment of Cutting and Measuring Tools) Moscow, Mashgiz, 1960. 305 p. Errata slip inserted. 6,000 copies printed.

Reviewer: D.M. Kostenko; Ed.: N.R. Izakov, Candidate of Technical Sciences; Ed. of Publishing House: V.V. Rzhavinskiy, Engineer; Tech. Ed.: V.D. El'kind; Managing Ed. for Literature on Metalworking and Machine-Tool Making; V.I. Mitin, Engineer.

PURPOSE: This book is intended for technical personnel concerned with the heat treatment of tools.

COVERAGE: The authors summarize results of experience gained over a number of years by numerous modern machine-building plants in the heat treatment of tools. The following are discussed: the classification of heat-treatment processes applied to cutting and measuring tools, scientific developments related to the proper selection of heat-treatment processes and modern heating equipment, recommendations regarding the utilization of standard tools by heat-treatment operators,

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Heat Treatment of Cutting (Cont.)

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the construction of equipment and accessories, and the planning of tool heat-treatment shops. Plant standards for the consumption of auxiliary materials used in the heat treatment of tools are included. No personalities are mentioned. There are 25 references, all Soviet.

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Appendix 2. Instructions for Treatment by Gas Cementation in the Ts-24,
Ts-35 and Ts-60 Furnaces

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TITLE: Region of Plastic State of Rocks in the Foundations of Boards and Dumps of Quarries (Oblast' plasticheskogo sostoyaniya porod v osnovaniyakh bortov i otvalov kar'yerov)

PERIODICAL: Dopovidi Akademii nauk Ukrain's'koi RSR, 1958, Nr 11, pp 1194-1198 (USSR)

ABSTRACT: Investigations performed by N.P. Puzyrevskiy [Ref 5], I.V. Yaropol'skiy [Ref 7], V.A. Florin [Ref 6], N.N. Maslov [Ref 5] made use of the method of construing the curves limiting the regions of plastic deformations. They did not taken into consideration the changes in the physico-mechanical properties of the rocks which were caused by stresses arising in the foundations. Therefore the existing methods of calculating the stability of foundations, accepted in the construction practice, cannot be applied in calculations of the stability of boards and dumps of the quarries as disregarding the variable character of the coefficients of rock strength which actually takes place. The method proposed by the present author takes into account this variability and gives substantially different results as to the extension of the region of plastic de-

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SOV/21-58-11-10/28

Region of Plastic State of Rocks in the Foundations of Boards and Dumps
of Quarries

formations, and makes it possible to approach the quantitative solution of the problem in question.
There are 4 graphs and 7 Soviet references.

ASSOCIATION: Institut gornogo dela AS UkrSSR (Institute of Mining of the
AS UkrSSR)

PRESENTED: By Member of the AS UkrSSR, N.A. Starikov

SUBMITTED: June 12, 1958

NOTE: Russian title and Russian names of individuals and institutions appearing in this article have been used in the transliteration.

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KOVSHULYA, A.A., kand. tekhn. nauk; PESHKOVSKIY, V.I., kand. tekhn. nauk; KALININ, G.S., gornyy inzh.; CHEREMNOY, A.A., gornyy inzh.

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D '63. (MIRA 17:2)

PECHKOVSKIY, V.V.

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РЕЧКОВСКИЙ, В. В.

Reaction between solid substances not in immediate contact. M. E. Pozin, A. M. Ginstling, and V. V. Rechkovskii. *Zhur. Priklad. Khim.* 27, 103-9 (1954); cf. C.A. 46, 7841h. — This work was undertaken to refute earlier theories of Tamman and others that the gaseous phase played no role in chem. processes in solid mixts. Mixts. of dry, chemically pure solids, 0.00-0.088 mm., previously studied by Tamman and by Hedvall were chosen for this work. In the first series of expts. sepn. was achieved by large proportions of inert powders of Al_2O_3 and SiO_2 added to: $CuSO_4 + PbO$; $ZnSO_4 + 6Cu$; $ZnS + 4.6CuO$, at 600, 625, and 650° (the last 2 mixts. were heated in a current of N_2 at 1 l./hr.). The effect of the presence of inert powders was very small: none in the first mixt.; in the 2nd mixt. the degree of reaction increased from 41.1 for zero inerts to 48.2 and 48.4% for 8 moles of Al_2O_3 and SiO_2 , resp.; for the 3rd mixt. there was a decrease from 73.9 to 72.3 and 70.8% as the proportion of the oxides increased from 0 to 8. In the 2nd series of expts. each powder was compressed into disks (25 mm. in diam. and 3-4 mm. thick) with sufficient pressure to give necessary strength without excessive d.; sepn. was by means of a porcelain ring 1 mm. high and 2.5 mm. wide. The amt. of oxide converted to sulfate, in mg./sq. cm. hr., was detd. at temps. from 525° to 850°. At 700° the extent of the reaction was 47.4, 11.5, 3.17, 12.23, 6.76, and 0.82 for $CuSO_4 + CaO$, $ZnSO_4 + CaO$, $MnSO_4 + CaO$, $CuSO_4 + MgO$, $ZnSO_4 + MgO$, and $MnSO_4 + MgO$. MoO_3 reacted with oxides of Fe, Pb, Ca, Mg, and Cu.

I. Benicovits

PECHKOVSKIY, V.V.

Some basic reactions of the process of binding with

the M. H. P. A. 24. G. H. H. and V. V. P. H. H.

the M. H. P. A. 24. G. H. H. and V. V. P. H. H.

the M. H. P. A. 24. G. H. H. and V. V. P. H. H.

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M. H. P. A.

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U.S.S.R.

Some basic reactions of the process of oxidation of sulphides are
 Ye. Pozil, A. M. Ginstling, and V. V. Pechkovskii (*Zh. prikl.
 Khim.*, 1954, 27, 1237-1243).—The velocity of desulphurization-
 temp. curves for mixtures of Al, Zn, and Cd sulphates with Cd, Zn,
 and Pb sulphides run parallel with the dissociation curves of the
 sulphates, suggesting that desulphurization is regulated by the
 reactions $MSO_4 \rightleftharpoons MO + SO_2$ and $2SO_2 + O_2 \rightleftharpoons 2SO_3$. Permeability
 to O_2 of oxide films is greater than that of sulphate films, facilitating
 access of O_2 to the interior of superficially oxidised sulphide granules.
 R. Tsvetov

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Investigation of the importance of some oxides in oxidizing
roasting of zinc sulfide. TSvet.net. 27 no.2:21-24 Nr-Ap '54.
(MIRA 10:10)

1. Novocherkasskiy politekhnicheskiy institut.
(Zinc--Metallurgy) (Oxides)

PECHKOVSKIY, V. V.

AID - P-89

Subject : USSR/Chemistry
Card : 1/1
Authors : Pozin, M. Ye., Ginstling, A. M., and Pechkovskiy, V. V.
Title : Role of the gaseous phase in reactions between solids
Periodical : Zhur. Prikl. Khim. 27, no. 4, 376-381, 1954
Abstract : Reaction rate and product yield can be limited by the rate and degree of dissociation of one of the reagents. The process can be intensified by improved reaction conditions. Four references (three U.S.S.R.): 1924-1954. Four tables; one graph.
Institution : None
Submitted : April 30, 1953

PECHKOVSKIY, V.V.

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Mechanism of oxidizing roasting of sulfide ores. V. V. Pechkovskiy, *Dokl. Akad. Nauk SSSR*, 1968, 178, 1165. (1968). Int. ZnO, MgO, CuO, and Fe₂O₃, used alone or in a 1:1 mol. proportion, were placed in a boat in a tube furnace and heated for 1 hr. at 400-500° in a stream of air contg. 3-5 and 1% SO₂ free from SO₃. The ZnO, ZnO-CuO, ZnO-Fe₂O₃, MgO, MgO-CuO, and MgO-Fe₂O₃ systems were investigated. After cooling and leaching, the percentage of sulfates formed was determined analytically. The data given show that, when used alone, ZnO and MgO result in a max. sulfatization of 5.87 and 30.0%, but in the presence of CuO, which acts as catalyst, 88.5 ZnO and 100% MgO can be sulfated; the respective figures becoming in the presence of Fe₂O₃ 24.3 and 35.0%. A stronger catalytic effect of CuO than of Fe₂O₃ in oxidation of SO₂ is caused by the fact that the oxidation of SO₂ at lower temp. is associated with a partial transformation of catalytically active oxides into neutral sulfates and, since CuSO₄ is thermally more stable than FeSO₄, CuO is "poisoned" stronger than Fe₂O₃. The presence in the mixt. of more stable sulfates than CuSO₄, namely ZnSO₄ and MgSO₄, activates the CuO surface through the reaction CuSO₄ + MgO = MgSO₄ + CuO. Lowering SO₂ in air from 3.5 to 1% did not cut sharply the rate of sulfating. Most sulfating processes pass through a max. with temp. This work was done to show that in oxidizing roasting of sulfide ores sulfates can form both by direct oxidation of the former and also from oxides.

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V. The isochronal decomposition of polyesters in the presence
of copper(II). Theoretical part. V. V. Pechkovskiy.

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